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Date of Deposit: Oct 2, 2006

By: James E Bradley

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Appellant:

GLOVER, JOHN N.

Filed: May 27, 1999

Application No.: 09/320,950

For: FILTERING MEDIUM AND  
METHOD FOR CONTACTING  
SOLIDS CONTAINING FEEDS  
FOR CHEMICAL REACTORS

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Art Unit: 1723

Primary Examiner: David L. Sorkin

Docket No.: 20781.004

**AMENDMENT TO APPEAL BRIEF**  
**(under 37 C.F.R. § 41.37(c)(1)(v))**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Notification of Non-Compliant Appeal Brief mailed August 30, 2006, for the above referenced application, Applicant hereby submits a revised "Summary of the Claimed Subject Matter" which includes references to the specification by page and line number and to the drawings by reference characters pursuant to 37 CFR 41.37(c)(1)(v) and MPEP 1205.03.

Applicant's original Appeal Brief was filed on March 13, 2006. A Notification of Non-Compliant Appeal Brief was mailed on March 29, 2006, and an Amended Appeal Brief was filed on May 30, 2006, in response thereto, along with the appropriate extension of time fees. A second Notification of Non-Compliant Appeal Brief was mailed on August 30, 2006, and this Amendment to Appeal Brief is being filed on September 29, 2006, in response thereto.

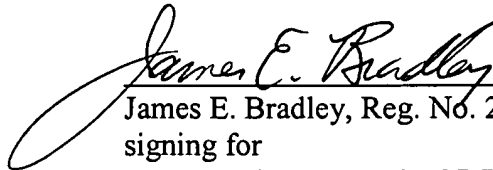
Notably, Applicant recently received the Examiner's Answer (see Exhibit A hereto) to the Appeal Brief. The Examiner's Answer is dated August 9, 2006. Section (5) on page 2 of the Examiner's Answer sets forth that Applicant's "summary of claimed subject matter contained in the brief is correct." As such, it is respectfully submitted that this second Amendment to the Appeal Brief is not necessary. Notwithstanding, in order to avoid any confusion and/or any unintentional abandonment of this pending appeal by missing any required deadlines, Applicant hereby files this second Amendment to Appeal Brief within one month of the date of the second Notification of Non-Compliant Appeal Brief.

Applicant respectfully submits that the Appeal Brief is now in compliance. It is submitted that the Primary Examiner's rejections of claims 59, 61-67 and 69-85 in the application are erroneous, and reversal of the Primary Examiner's decision is respectfully requested.

No fees are believed to be due at this time. If fees are due, please charge any such fees and credit any overpayments to the Deposit Account of Bracewell & Giuliani LLP, Deposit Account No. 50-0259 (attorney docket no. 020781.04).

Respectfully submitted,

Date: Oct 2, 2006



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James E. Bradley, Reg. No. 27,536  
signing for

Ben D. Tobor, Reg. No. 27,760

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ATTORNEYS FOR ASSIGNEE, CRYSTAPHASE  
INTERNATIONAL, INC.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claims 59, 67 and 78 are independent claims. Claims 61-66, 79 and 82-83 are ultimately dependent upon Claim 59. Claims 69-77, 80 and 84-85 are ultimately dependent upon Claim 67. Claim 81 is dependent upon Claim 78. A summary of the subject matter of the most relevant independent and dependent claims currently on appeal is presented as follows:

Claim 59

The first independent claim, Claim 59, features a method of fluid distribution in a chemical reactor 22 (page 3, ¶[0024]), comprising the steps of:

(A.) providing a layer 66, 68, 70 (page 3, ¶[0024]) (FIG. 2) of a plurality of ceramic filter units 15 (page 3, ¶[0024]) (FIGS. 4-16), at least some of the ceramic filter units 15 including a body having a substantially annular outer peripheral shape (page 6, ¶[0059]) (FIGS 4-5), a central opening 108 extending through the body, and at least three elliptical openings 89 extending through the body (page 3, ¶[0024]) (page 6, ¶[0059]) (FIGS 4-5) and positioned between the central opening 108 and an outer periphery of the body (page 6, ¶[0059]) (FIGS 4-5) so that a combination of the central opening 108 and the at least three elliptical openings 89 define a plurality of fluid flow passageways 87, 88, 89, 108 (page 3, ¶[0024]) (FIGS. 4, 5, 14) extending through the at least some of the plurality of ceramic filter units 15 (page 3, ¶[0024]);

(B.) contacting an organic-based feed stream 51 (FIG. 2) with the layer 66, 68, 70 of the plurality of ceramic filter units 15 (page 3, ¶[0024]); and

(C.) subdividing the organic-based feed stream 51 into a plurality of smaller fluid streams by passing the organic-based feed stream 51 through the plurality of fluid flow passageways 87,

88, 89, 108 (pages 3-4, ¶[0024]) (FIGS. 4, 5, 14) prior to the organic-based feed stream 51 contacting a catalyst bed in the chemical reactor 22 (page 5, ¶[0048-49]).

Claim 67

The second independent claim, Claim 67, features a method of fluid distribution in a chemical reactor 22 (page 3, ¶[0024]) comprising the steps of:

(A.) providing a layer 66, 68, 70 (page 3, ¶[0024]) (FIG. 2) of a plurality of ceramic filter units 15 (page 3, ¶[0024]) (FIGS. 4-16), at least some of the ceramic filter units 15 including a body having a substantially polygonal outer peripheral shape (page 7, ¶[0061]) (FIGS 4-5), a central opening 108 extending through the body, and at least three elliptical openings 89 extending through the body (page 3, ¶[0024]) (page 6, ¶[0059]) (FIGS. 4-5) and positioned between the central opening 108 and an outer periphery of the body (page 6, ¶[0059]) (FIGS 4-5) so that a combination of the central opening 108 and the at least three elliptical openings 89 define a plurality of fluid flow passageways 87, 88, 89, 108 (page 3, ¶[0024]) (FIGS. 4, 5, 14) extending through the at least some of the plurality of ceramic filter units 15 (page 3, ¶[0024]);

(B.) contacting an organic-based feed stream 51 (FIG. 2) with the layer 66, 68, 70 of the plurality of ceramic filter units 15 (page 3, ¶[0024]); and

(C.) subdividing the organic-based feed stream 51 into a plurality of smaller fluid streams by passing the organic-based feed stream 51 through at least some of the plurality of fluid flow passageways 87, 88, 89, 108 (pages 3-4, ¶[0024]) (FIGS. 4, 5, 14) prior to the organic-based feed stream 51 contacting a catalyst bed in the chemical reactor 22 (page 5, ¶[0048]).

Claim 78

The third independent claim, claim 78, features a method of fluid distribution in a chemical reactor (page 3, ¶[0024]) comprising the steps of:

(A.) providing a layer 66, 68, 70 (page 3, ¶[0024]) (FIG. 2) of a plurality of ceramic filter units 15 (page 3, ¶[0024]) (FIGS. 4-16), at least some of the ceramic filter units 15 including a body, a central opening 108 extending through the body, and at least three elliptical openings 89 also extending through the body (page 3, ¶[0024]) (page 6, ¶[0059]) (FIGS. 4-5) and positioned between the central opening 108 and an outer periphery of the body (page 6, ¶[0059]) (FIGS. 4-5) so that a combination of the central opening 108 and the at least three elliptical openings 89 define a plurality of fluid flow passageways 87, 88, 89, 108 (page 3, ¶[0024]) (FIGS. 4, 5, 14) extending through each of the plurality of ceramic filter units 15 (page 3, ¶[0024]);

(B.) contacting an organic-based feed stream 51 (FIG. 2) with the layer 66, 68, 70 of the plurality of ceramic filter units 15 (page 3, ¶[0024]); and

(C.) subdividing the organic-based feed stream 51 into a plurality of smaller fluid streams by passing the organic-based feed stream 51 through the at least some of the plurality of fluid flow passageways 87, 88, 89, 108 (pages 3-4, ¶[0024]) prior to the organic-based feed stream 51 contacting a catalyst bed in the chemical reactor 22 (page 5, ¶[0048]).

Claim 82

Dependent claim 82 features the method of claim 64, wherein the fluted outer peripheral surface of the at least one of the plurality of ceramic filter units has sharp edges.

Claim 83

Dependent claim 83 features the method of claim 65, wherein at least one of the recessed notches of the outer periphery has sharp edges.

Claim 84

Dependent claim 84 features the method of claim 70, wherein at least one of the notches recessed from the outer periphery has sharp edges.

Claim 85

Dependent claim 85 features the method of claim 76, wherein at least one of the recessed notches on the outer periphery has sharp edges.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,950	05/27/1999	JOHN N. GLOVER	2797.004	5662

7590 08/09/2006  
BEN D. TOBOR  
BRACEWELL & PATTERSON, LLP  
P.O. Box 61389  
HOUSTON, TX 77002

EXAMINER

SORKIN, DAVID L

ART UNIT PAPER NUMBER

1723

DATE MAILED: 08/09/2006

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EXAMINER
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ART UNIT	PAPER
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Commissioner for Patents

David L. Sorkin  
Primary Examiner  
Art Unit: 1723



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

Application Number: 09/320,950  
Filing Date: May 27, 1999  
Appellant(s): GLOVER, JOHN N.

AUG 09 2006

**GROUP 1700**

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Ben D. Tober  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 02 June 2006 appealing from the Office  
action mailed 07 June 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed. Though a response filed 11 August 2005 was titled "Amendment and Response" and a claim list was included, no changes were actually proposed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 4,615,796                      Kramer                      10-1986

Fulton, W. F. "CE Refresher, Catalyst Engineering part 2, Selecting the Catalyst Configuration" Chemical Engineering (12 May 1986), pages 97-101.

**(9) Grounds of Rejection**

The following grounds of rejection are applicable to the appealed claims:

Claims 59, 61-67 and 69-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (US 4,615,796) in view of "CE Refresher: Catalyst Engineering, Part 2" by John Fulton ("Fulton" herein). Regarding claims 59 and 78, Kramer ('796) discloses a method of fluid distribution in a chemical reactor comprising the steps of providing a layer of a plurality of ceramic filter units (see col. 3, lines 34-40; Figs. 1 and 2); contacting an organic based stream with the layer of the plurality of ceramic filter units and passing the organic-based stream through the layer prior to the organic based feed stream contacting a catalyst be in the chemical reactor (see col. 2, lines 20-25; Figs. 1 and 2). Kramer ('796) fails to disclose the units having 3 or more passages surrounding a central passage, through which fluid flows (although annular units, including ones with passages are disclosed in Table 1). Fulton teaches cylindrical units having a central opening and four circular/elliptical openings between the central opening and the periphery (see Fig. 1, third column, fifth row). Note: it is considered that the broadest reasonable definition of ellipse includes circles; just as squares are a special type of rectangle, circles are a special type of ellipse. It is considered that it

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would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the above-mentioned shape as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing loss of strength (see pages 97 and 98, Fig. 3). See also the admitted prior art of page 3, lines 7-18 of the instant specification. Regarding claim 61, Kramer ('796) further discloses removing contaminants from a contaminated stream; and providing the contaminated stream to a catalyst bed for further processing in the chemical reactor (see col. 1, lines 52-60; col. 3, lines 4-22; Figs. 1 and 2). Regarding claims 62 and 63, because "packing factor" can be set to any value for a given shape unit merely by varying the size of the unit, and Kramer ('796) explains that unit size should be selected according to an expected particle size to be filtered out, it is considered that it would have been obvious to one of ordinary skill in the art to have optimized the packing factor to suit a particular expected contaminate particle size. Further regarding claim 63, Kramer ('796) discloses packing the ceramic filter units in graduated layers into the chemical reactor with each layer having a different packing factor (see examples 1-3). Regarding claim 64, Fulton further teaches units may have a flute outer periphery (see Fig. 1). Regarding claim 65, Fulton further teaches that units may have a plurality of recessed notches extending inwardly from the outer periphery toward the medial portion of the units (see Fig. 1). Regarding claim 66, in the units taught by Fulton the four openings substantially

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surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening (see Fig. 1). Regarding claim 67, Kramer ('796) discloses a method of fluid distribution in a chemical reactor comprising the steps of providing a layer of a plurality of ceramic filter units (see col. 3, lines 34-40; Figs. 1 and 2); contacting an organic based stream with the layer of the plurality of ceramic filter units and passing the organic-based stream through the layer prior to the organic based feed stream contacting a catalyst be in the chemical reactor (see col. 2, lines 20-25; Figs. 1 and 2). Kramer ('796) fails to disclose the polygonal units having 3 or more passages surrounding a central passage, through which fluid flows. Fulton teaches units having a central opening and four circular/elliptical openings between the central opening and the periphery (see Fig. 1, third column, fifth row). Note: it is considered that the broadest reasonable definition of ellipse includes circles; just as squares are a special type of rectangle, circles are a special type of ellipse. Polygonal units are also taught (see Fig. 1). It is considered that it would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer ('796) explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the above-mentioned shapes as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing lose of strength (see pages 97 and 98, Fig. 3). Fulton also notes in the caption of Fig. 1, that the shapes "represent only a few of the almost limitless variety possible". Regarding claim 69, Kramer ('796) further

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discloses removing contaminants from a contaminated stream; and providing the contaminated stream to a catalyst bed for further processing in the chemical reactor (see col. 1, lines 52-60; col. 3, lines 4-22; Figs. 1 and 2). Regarding claims 70 and 76, Fulton further teaches that units may have a plurality of recessed notches extending inwardly from the outer periphery toward the medial portion of the units (see Fig. 1). Regarding claim 71-75, square and rectangular shapes are disclosed in Fig. 1 of Fulton. It is explained that the size of the units should be selected based upon various economic trade-offs (see pages 98-99). Kramer provides examples of unit sizes being 0.5 inches and other sizes within the claimed ranges (see example 1-3). Also see applicant's admission on page 3, lines 7-10 regarding prior art thickness of "3/8 inch" and "approximately 1/8 inch to 1 1/4 inches in diameter". Regarding claim 77, in the units taught by Fulton the four openings substantially surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening (see Fig. 1). Regarding claims 79-81, the central opening taught by Fulton is circular (see Fig. 1, third column, fifth row).

Claims 82-85 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. These claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Recitation in claims 82-85 that "the outer periphery has sharp edges" is considered to be new matter. No discussion of the issue of edge sharpness is found in the originally filed disclosure.

**(10) Response to Argument**

Appellant argues beginning on page 7 of the brief that Kramer does not disclose a method of *fluid distribution*, but rather a method of *filtering*. However, Kramer discloses feeding fluid to a bed of particles. That fluid is distributed upon being feed through a bed of particles is inherent. It is also noted that the instant application, in the first sentence of the background of the invention, states "The invention relates to a filtering medium and method for filtering"; therefore, that the fluid distribution method of Kramer involves filtering makes it identical to the instant application in this respect.

Each of the instant independent claims requires three elliptical openings. It is agreed that Kramer does not disclose a unit have three elliptical openings. However, contrary to appellant's arguments on page 9 of the brief, Fulton discloses a unit having a central opening and four surrounding elliptical openings, as seen in Fig. 1, particularly the unit in column three, row five of Fig. 1. The instant claims are open to the elliptical openings being any type of elliptical opening, including circular openings. The broadest reasonable definition of "ellipse" includes circles. Just as squares are a specific subset of rectangles, circles are a specific subset of ellipses.

Appellant's discussion of supposed improved results concerning circle-shaped openings versus other types of ellipses are of no consequence, because the claims are open to all types of ellipses including circles.

Similarly, concerning the declaration of Mr. Glover, the prior art product C is within the scope of the claims. The 6 circular openings surrounding a central opening, are consistent with the claim requirement of at least 3 elliptical openings and a central



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opening, because circles are a specific subset of ellipses. Also, the experiments of Mr. Glover, compare four "elliptical" surrounding openings to six (rather than four) circular openings, even though Fulton discloses four surrounding circular/elliptical openings. Also, Mr. Glover does not explain to what degree, if any, the elliptical openings of products F-H differ from circles.

Regarding the motivation to combine the teachings of the references, it would have been obvious to one of ordinary skill in the art to have shaped the units of Kramer according to the teachings of Fulton, because Kramer explains that alternative unit shapes may be used in the disclosed processes (see Table 2 and col. 4, lines 1-4). Furthermore, Fulton teaches the relied upon shape as an alternative to other shapes including spheres (see page 97) and explains that passages in the units can significantly reduce the amount of material needed, while minimizing loss of strength (see pages 97 and 98, Fig. 3).

Appellant begins to address the section 112, first paragraph rejection on page 13 of the brief. Claim 59, from which claims 82 and 83 depend, require "a substantially annular outer peripheral shape". Appellant's statement "the triangular, quadrilateral, pentagonal and other similarly shaped figures shown in the aforementioned drawings all, by definition, have three or more sharp corners and/or edges formed one their outer peripheries" is irrelevant to the required "annular outer peripheral shape". Furthermore, appellant fails to distinguish between an "edge" and a "shape edge". It is the word "sharp" that introduces new matter.

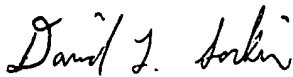
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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



David L. Sorkin  
Primary Examiner  
Art Unit 1723

Conferees:

  
W. L. WALKER

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